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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,265	09/19/2003	Thomas J. Hartle	125855-2	6052
23413 7590 08/27/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER				
CHEUNG, WILLIAM K				
ART UNIT		PAPER NUMBER		
1796				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/667,265

Applicant(s)

HARTLE ET AL.

Examiner

WILLIAM K. CHEUNG

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-20 and 22-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-20 and 22-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The examiner acknowledges the argument filed June 17, 2008. Claims 1-8, 10-20, 22-45 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-6, 8, 10-20, 22-35, 38, 40-42, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sobajima et al. (US 4,603,153) in view of Chao et al. (US 5,853,060) for the reasons adequately set forth from paragraph 3 of the office action of March 17, 2008.

Sobajima et al. (abstract) disclosed a glass fiber reinforced resin composition a crystalline propylene polymer suitable for interior and/or exterior parts of cars (col. 1, line 36-39). Further, Sobajima et al. (col. 7, line 39-60) disclose that the glass fiber reinforced resin composition comprises components (a) to (e), plus other additional ingredients.

<i>Components</i>	<i>Materials</i>	
(a)	<i>Polypropylene, 30-98 parts</i>	Col. 7, line 39-60
(b)	<i>Glass fiber, 2-30 parts</i>	Col. 7, line 39-60
(c)	<i>Ethylene copolymer, 0-35 parts</i>	Col. 7, line 39-60
(d)	<i>Inorganic filler, 0-30 parts</i>	Col. 7, line 39-60
(e)	<i>Pigments, 0-10 parts</i>	Col. 7, line 39-60
	<i>Other polymers: ABS, maleic anhydride grafted polyethylene, styrene-butadiene-styrene block copolymer or its hydrogenated product [also known as styrene-(ethylene-butylene)-styrene triblock copolymer (specification, page 13, 0038], polyphenylene oxide</i>	Col. 8, line 46-62
	<i>Other fillers</i>	Col. 8, line 33-45

In view of the substantially identical polymers or components disclosed in the resin composition of Sobajima et al. and the resin composition as claimed, the examiner has a reasonable basis that the resin composition of Sobajima et al. and as claimed are substantially identical even though there may be some differences in the preparative method in the addition order of the components for preparing the disclosed composition and the composition as claimed. Applicants must recognize that the claimed invention is a product, not a process.

Regarding claimed "poly(alkenyl aromatic) resin" of claim 17, "modified polystyrene" of claim 19, "hydrogenated block copolymer" having "55 to 75 or 77 weight percent of repeating unit derived from an alkenyl aromatic compound" of claim 40 or 44, Sobajima et al. (Col. 8, line 46-62) clearly disclose styrene-butadiene rubber, styrene butadiene styrene block copolymer or its hydrogenated product, and ABS that would meet the claimed requirement. Regarding the claimed weight percent of the alkenyl aromatic compound, the examiner has a reasonable basis that the weight percent feature is inherently possessed in Sobajima et al. because the taught styrene-butadiene copolymers of Sobajima et al. generically fully encompass the weight percent being claimed because the disclosed copolymers are commercially available polymer products that come in various weight percent, with the butadiene units hydrogenated or unhydrogenated.

Regarding the claimed "polypropylene-graft-maleic anhydride copolymer" of claim 22, 28-30, Sobajima et al. (col. 2, line 34-47) clearly disclose a polypropylene grafted with maleic anhydride.

Regarding the claimed "surface coating" of claim 26, Sobajima et al. (col. 10, line 46-49) clearly the use of sizing agent (which functionally is a surface coating) for the disclosed fillers.

Regarding the claimed "glass fibers having a diameter of about 2 to about 25 micrometers", Sobajima et al. (col. 10, line 42-44) disclose the use of glass fibers having a diameter of 4 microns.

Regarding claim 15 which requires additional component of an unhydrogenated block copolymer, Sobajima et al. (col. 8, line 46-51) clearly disclose the functional equivalence of hydrogenated block copolymer SBS and unhydrogenated block copolymer SBS, motivated by the expectation of success of producing the resin composition of Sobajima et al., it would have been obvious to one of ordinary skill in art to employ a mixture of hydrogenated and unhydrogenated SBS to obtain the additional component inventive feature of claim 15 (see MPEP 2144).

MPEP 2144

In *In re Dillon*, applicant claimed a composition comprising a hydrocarbon fuel and a sufficient amount of a tetra-orthoester of a specified formula to reduce the particulate emissions from the combustion of the fuel. The claims were rejected as obvious over a reference which taught hydrocarbon fuel compositions containing tri-orthoesters for dewatering fuels, in combination with a reference teaching the equivalence of tri-orthoesters and tetra-orthoesters as water scavengers in hydraulic (nonhydrocarbon) fluids. The Board affirmed the rejection finding "there was a reasonable expectation" that the tri- and tetra-orthoester fuel compositions would have similar properties based on close structural and chemical similarity between the tri- and tetra-orthoesters and the fact that both the prior art and *Dillon* use these compounds as fuel additives." 919 F.2d at 692, 16 USPQ2d at 1900. The court held "it is not necessary in order to establish a

prima facie case of obviousness . . . that there be a suggestion or expectation from the prior art that the claimed [invention] will have the same or a similar utility as one newly discovered by applicant," and concluded that here a prima facie case was established because "[t]he art provided the motivation to make the claimed compositions in the expectation that they would have similar properties." 919 F.2d at 693, 16 USPQ2d at 1901 (emphasis in original).

The difference between the invention of claims 1-6, 8-20, 22-35, 38, 40-42, 44 and Sobajima et al. is that Sobajima et al. are silent what type of interior components is considered underhood components in the automotive industries.

Chao et al. (abstract) disclose that an automotive vehicle having a hood covering "an underhood area" in a front portion of the vehicle and a vehicle body defining a vehicle "interior". Therefore, the examiner has a reasonable basis that the claimed "underhood components" are components located in the interior section of an automobile. Motivated by the expectation of success of developing an application for the resin composition of Sobajima et al., it would have been obvious to one of ordinary skill in art to read the definitions of "interior" and "underhood" of Chao et al. into the "interior parts" teachings of Sobajima et al. (abstract) to obtain the invention of claims 1-6, 8-20, 22-35, 38, 40-42, 44.

4. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sobajima et al. (US 4,603,153) in view of Chao et al. (US 5,853,060) as evident by

Casarini et al. (US 5,358,989) for the reasons adequately set forth from paragraph 7 of the office action of April 24, 2007.

In view of paragraph 3 of instant office action, the composition taught by Sobajima et al. and Chao et al. is very similar to the composition as claimed.

Although both Sobajima et al. and Chao et al. are silent of a poly(arylene ether) composition comprising a copolymer of 2,6-dimethylphenol and 2,3,6-trimethylphenol, Sobajima et al. (col. 8, line 62) clearly disclose a composition comprising polyphenylene oxide. As evident in Casarini et al. (col. 12, claim 5), the polyphenylene oxide of Sobajima et al. is a class of polymers inherently possesses 2,6-dimethylphenol and 2,3,6-trimethylphenol units.

5. Claims 39, 43, 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sobajima et al. (US 4,603,153) in view of Chao et al. (US 5,853,060), further in view of Li et al. (US 6,060,549) for the reasons adequately set forth from paragraph 8 of the office action of April 24, 2007.

In view of paragraph 3 of instant office action, the composition taught by Sobajima et al. and Chao et al. is very similar to the composition as claimed.

The difference between the invention of claims 39, 43, 45 and the combined teachings of Sobajima et al. and Chao et al. is that both Sobajima et al. and Chao et al. are silent of a composition comprising homopolystyrene.

Li et al. (col. 12, claim 2) disclose a thermoplastic polymer nanocomposite encompassing a resin composition comprising polystyrene and polyphenyleneoxide. Further, Li et al. (col. 1, line 61-65) clearly disclose the advantages of the disclosed resin composition having the physical and mechanical properties of automotive bumpers. Therefore, motivated by the expectation of success of improving the resin composition as taught in Sobajima et al. and Chao et al. in achieving physical and mechanical properties, it would have been obvious to incorporate the resin composition of Li et al. (which include homopolystyrene) into the resin composition of Sobajima et al. and Chao et al. to obtain the invention of claims 39, 43, 45.

6. Claims 36-37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sobajima et al. (US 4,603,153) in view of Chao et al. (US 5,853,060) for the reasons adequately set forth from paragraph 9 of the office action of April 24, 2007.

In view of paragraph 3 of instant office action, the composition taught by Sobajima et al. and Chao et al. is very similar to the composition as claimed.

The difference between the invention of claims 36-37 and the combined teachings of Sobajima et al. and Chao et al. is that both Sobajima et al. and Chao et al. are silent of a radiator end cap.

However, Chao et al. (abstract) clearly disclose that an automotive vehicle having a hood covering "an underhood area" in a front portion of the vehicle and a vehicle body defining a vehicle "interior". Since the claimed "radiator end cap" is located

in an area that is considered an "underhood" area, the claimed "radiator end cap" is generically embraced by the "interior parts" teachings of Sobajima et al. Motivated by the expectation of success of developing a car interior application for the resins composition of Sabajima et al., it would have been obvious to one of ordinary skill in art to recognize that a radiator end cap is an car interior parts to obtain the invention of claim 36-37.

Although Chao et al. defines "vehicle interior" as the compartment where the passengers sit, however, the definition in Chao et al. can not be used to define the recited "interior" of Sobajima et al. because Sobajima et al. only divide the parts of an automobile into "exterior" and "interior" parts, while Chao et al. divide the parts of an automobile into much more components than Sobajima et al. Because Sobajima et al. only divide the parts into "exterior" and "interior" parts, the examiner has a reasonable basis to believe that the "exterior" parts are the parts that are exposed to constant weathering, while the "interior" parts do not.

Response to Arguments

7. Applicant's arguments filed June 17, 2008 have been fully considered but they are not persuasive. Applicants argue that because Sobajima et al. teach that some of the components as taught are optional. However, applicants must recognize that the components are still taught. Therefore, the examiner has a reasonable basis to believe that the inherency rationale set forth is proper.

Regarding applicants' argument that Sobajima et al. teach an embodiment that only require polypropylene and glass fibers, where the other components are optional, applicants fail to recognize that the preferred embodiment of Sobajima et al. (col. 7, line 50-60) clearly indicate that applicants' argument is not true.

Regarding applicants' argument that one of ordinary skill in art will involve picking or choosing the components disclosed in Sobajima et al. in order to obtain the invention as claimed, applicants must recognize that when components are explicitly taught in Sobajima et al., it is the examiner's position to believe that it would not difficult to one of ordinary skill in art to recognize that components disclosed or taught and incorporate the components in the invention of Sobajima et al. to obtain the invention as claimed.

Regarding Applicants' argument that the examiner can only apply "inherency" in a 102 rejection, not in a 103 rejection, applicants fail to recognize that the examiner can apply "inherency" when ever an issue is related to a materials and their corresponding properties. Regarding the instant application, Sobajima et al. (col. 8, line 46-51) clearly teach a class of styrene-butadiene copolymers that are commercially available. In view that the such commercially readily available materials are available at various amount of styrene content, the examiner has a reasonable basis that the claimed amount of alkenyl aromatic content of 40 to 90 weight percents are inherently possessed in Sobajima et al. Regarding applicants' disagreement in the inherency set forth, the examiner has attached a readily available product specification on SBS block copolymers obtained from <http://www.ides.com/grades/ds/E913.htm> to show a SBS

copolymer having 40 mole percent of styrene content, which clearly meets the claimed content.

Regarding applicants' argument that Sobajima et al. and Chao et al. are not combinable, applicants fail to recognize that both references are related to the fabrication of parts for the cars. Therefore, it would not be difficult to one of ordinary skill in art the materials that are used for fabricating car related products in the disclosures to Sobajima et al. and Chao et al. Regarding applicants' argument that the recited "interior" in Sobajima et al. is referred to "vehicle interior" of a car in view of Chao et al. (col. 3, line 28), the examiner disagrees. Applicants must recognize that each of the references cited has their own way of defining terms. Although Chao et al. defines "vehicle interior" as the compartment where the passengers sit, however, the definition in Chao et al. can not be used to define the recited "interior" of Sobajima et al. because Sobajima et al. only divide the parts of an automobile into "exterior" and "interior" parts, while Chao et al. divide the parts of an automobile into much more components than Sobajima et al. Because Sobajima et al. only divide the parts into "exterior" and "interior" parts, the examiner has a reasonable basis to believe that the "exterior" parts are the parts that are exposed to constant weathering, while the "interior" parts do not. In view of the reasons set forth above, the examiner has a reasonable basis to maintain the rejection set forth on March 17, 2008.

Regarding applicants' argument that Sobajima et al. do not teach an underhood component such as the radiator end cap as claimed, applicants fail to recognize that the claims as written do not specify any geometry to the radiator end cap or the underhood

component. Therefore, the examiner has a reasonable basis to believe that any geometry of the resin composition of Sobajima et al. is adequate to meet the claimed underhood component such as a radiator end cap.

Regarding the miscibility argument on the claimed components, the argument is not supported by the claims as written.

In view of the reasons set forth above, the rejections set forth are maintained.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (571)

272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Patent Examiner
August 12, 2008

